231-81-0039 Analysis of Changes in the Content of Physician Office Visits & The Changing Nature of Physicians' Office Visits / Janet B. Mitchell, et al.

HEALTH ECONOMICS RESEARCH, INC.
824 Boylston Street • Chestnut Hill, MA 02167 • (617) 738-0621

CC

Copy for Sandy, Terrell + Dutton

Thanks Bill

1/11

THE CHANGING NATURE OF PHYSICIANS' OFFICE VISITS

by

Janet B. Mitchell, Ph.D.
Rachel Schurman, M.A.
Jerry Cromwell, Ph.D.

with
Health Economics Research, Inc.
824 Boylston Street
Chestnut Hill, Massachusetts 02167

Supported under Contract No. 232-81-0039, John Drabek, Ph.D., Project Officer.

November, 1984

ABSTRACT

Although there is a general feeling that increases in physician fees may reflect an overall improvement in the content and quality of care, there has been no time-series documentation of this fact to date. This study provides the first empirical evidence that physicians' office visits have, in fact, been changing over time, though not in ways that one might expect. Rather than involving more diagnostic services, such as lab tests and x-rays, the typical office visit has come to include more therapeutic services, especially counselling. This is reflected in more time being spent directly with patients. Between 1974 and 1981, the average office visit increased in length by nearly one full minute. Multivariate analysis indicates that the typical office visit is changing largely because physicians themselves are changing. Not only are physicians becoming increasingly specialized, but they are also more likely to be female, in group practice, and board-certified.

THE CHANGING NATURE OF PHYSICIANS' OFFICE VISITS

According to recent figures published by the Bureau of Labor Statistics, the physician fee component of the consumer price index (CPI) has risen about 8% per year since 1967.[1] That is, a visit to the physician which cost $15 in 1967, costs closer to $35 today. But are we getting any more for our money now that we did some fifteen years ago?

Like most price indices, the CPI implicitly assumes that the nature of the product whose price is being measured (in this case, physicians' services) has not changed significantly over time. If significant changes have occurred, the price index may well under- or overstate the true change in prices over time. For a product like physicians' visits, which are typically believed to be getting longer and more service-intensive, this may be a particular problem, leading to a possible overstatement of physician fee inflation in real, quality-constant, terms.

The changing nature of physicians' office visits has other policy ramifications as well. Longer visit lengths due to specialization, if documented, may imply better access to more highly trained physicians. It may also imply a natural upward bias in physician requirements in the future unless work effort trends reverse themselves. Furthermore, the general shift from inpatient to ambulatory office care is of vital importance both in terms of rationalizing the delivery system and in measuring the systemwide savings

to declining hospital utilization. More office surgery, endoscopies, and diagnostic testing, for example, may save money where they substitute for, or avoid, hospitalization. On the other hand, reductions in hospital use undoubtedly overstate net savings once greater office activity is included. Our study provides the first empirical documentation of the changing nature of the visit and includes some unexpected results in light of the conventional wisdom.

The rest of the paper is presented in four parts. The next section discusses the main data source for the study and the methods used to analyze and isolate trends in physician office activity. This is followed by descriptive results showing trends in length of visit and diagnostic and therapeutic services over the 1974-81 period. Multivariate regression is used in the next section (a) to test for the significance of observed time trends and (b) to determine the independent contribution of casemix, specialty, other practice characteristics, and shifts in the regional locus of office care on the trends. A summary and discussion of the policy significance of our findings concludes the paper.

DATA SOURCES AND METHODS

Eight years of data (1974-1981) from the National Ambulatory Medical Care (NAMC) surveys conducted by the National Center for Health Statistics (NCHS) provided the basis for our analysis. Each survey is a nationally representative sample of approximately 2,000 office-based physicians from nine specialty groups, including both MDs and DOs. Physicians were asked to complete a questionnaire on a systematic random sample of visits over the course of a one week period. Each survey year included data on about 45,000 patient visits.

The NAMC surveys provide an excellent data base for examining the resources associated with different types of office visits. Physicians were queried about all services prescribed during a visit even if the physician did not actually provide them. Ancillary services included in the survey varied over the eight year period, however, reducing the number of consecutive data points for certain services. NCHS altered the protocol for injections, immunizations, and drugs to such an extent that temporal comparisons were impossible, and they do not appear in any of the tables. In addition to ancillary service information, data were collected on visit contact time with the physician, patient characteristics (including casemix), and physician characteristics, such as specialty, gender, age and whether the physician is board-certified.*

Because the visit file was so large and expensive to process (over 350,000 observations over the 1974-81 period), we chose to aggregate across visits to the physician level. For each identified physician, we calculated total visits provided, percent of visits involving each of the diagnostic and therapeutic services, and mean length of visit. All the basic physician descriptors were also included, along with an MD/DO designation and the survey year. Finally, a sum total of each physicians' visits was used in conjunction with NCHS selection probabilities to weight the physician aggregates to produce national means.

Both descriptive and multivariate methods were employed in this study. Simple descriptive statistics characterize gross trends in office visit content, while multivariate regression analysis was used to statistically

---

*Physician sex, age, and board-certification status are not part of the NAMCS public use tapes. They were obtained for purposes of this project under special agreement with NCHS.

distinguish the pure time trend in content from confounding shifts in specialty mix, physician productivity, and casemix, among other things. This was done in two steps. First, a simple linear test of the time trend alone was made using our time series cross-section of physicians. In the second stage, casemix, specialty, region, and practice mode were held constant, essentially testing the impact of time on visit content over and above these other changes.

Although variables reflecting physician specialty and productivity were readily available on the NAMCS tape, the same was not true of a patient casemix measure, which had to be constructed from detailed visit information. Following Mathematica,[2] a casemix index was constructed at the physician level by regressing average length of visit (LOV) on a set of patient and diagnostic variables and then using the estimated coefficients in a second stage to weight each physician's casemix proportions. Variables in the first stage regression included patient demographics (age, sex and race); patient "reason for visit"; visit status (new or old patient, new or previously identified problem); and diagnosis. Because so many unique diagnoses were recorded, we selected the top 60 diagnostic "clusters" identified by Schneeweiss et al.,[3] treating the remainder as a residual category. LOV-based casemix indices (CASEMIX) imply that complexity is proportional to patient time spent with the physician. This is similar in effect, if not approach, to the CRVS hernia equivalent method used by Hughes et al.[4] in evaluating surgical procedures, and to Fetter et al.'s[5] approach in developing hospital Diagnostic Related Groups (DRGs). Trend analysis of our casemix index showed no temporal variation between 1974-81.

DESCRIPTIVE RESULTS

Diagnostic Services

Table 1 presents national means by year for the three dimensions of office visit content: diagnostic services, therapeutic services, and visit length. The numbers for the various services refer to the percent of office visits for which a given service was ordered or provided while visit length is given in minutes.

Although there is considerable fluctuation from year to year, many of the services do show increases over the relevant time period, indicating a trend towards greater visit intensity. Physicians conducted a limited exam and history for almost two-thirds (64.9%) of all office patients in 1981, an increase of 14 percentage points over 1975. At the same time, however, general exams and histories show little evidence of diminishing in frequency, as one might expect if physicians were substituting limited for general exams over time. Instead, an exam of some sort appears to be a more and more common component of every office visit.

Two ancillary services of particular interest are laboratory tests and x-rays. Both are popularly believed to be a major source of inflation in medical care expenditures, particularly in the hospital. Table 1 shows that both are increasing in frequency in the physician's office as well. The percent of office visits involving laboratory tests increased 15.7% from 1974 to 1981 (albeit not consistently), and x-rays, 7.0%. While the percent increases seem fairly large, the absolute changes are relatively small and neither trend was found to be statistically significant (see below).

Physicians are also checking the blood pressure on a slightly larger number of patients, but the change is again insignificant (4.5% from 1975 to 1981). Electrocardiograms, in fact, are not being utilized any more

frequently than they were in 1975, even though the two specialties most likely to order ECGs, internists and cardiologists, have increased their market share considerably since the mid-seventies, i.e., from 14.2 to 16.8% for internists and 2.4 to 2.8% for cardiologists.[6]

Although Pap tests were only included in the last five years of the survey, they appear to be declining over time. Whereas 5.4% of physician visits involved Pap smears in 1977, only 4.3% did in 1981, a reduction of more than 25%. Vision tests, by contrast, are being performed more often, up 23 percent from 1975.

Therapeutic Services

Office surgery shows a fairly stable, positive trend over time, increasing 9 percent from 1975 to 1981 (from 6.7% of visits to 7.3%). Even more dramatic was the increase in physiotherapy, which more than doubled over the period (from 2.2% of visits to 4.6%).

An increasing number of physicians' office visits involve some sort of counselling every year. Medical counselling, for example, almost doubled between 1975-1981, while visits involving diet counselling have been growing at a rate of about 2% a year since 1977.* By 1981, physicians were providing medical advice regarding diet, exercise, or health habits to more than one out of every four office patients compared with one out of eight in 1975.

The final dimension of visit content reported in Table 1 is length of visit, defined as the actual duration (in minutes) of face-to-face contact between patient and physician. The average amount of time physicians spent with their patients increased 10% between 1974 and 1981, from 14 minutes per

---

*Prior to 1977, medical counselling included diet counselling.

patient to 15.4 minutes. This relatively small rate of increase is somewhat surprising given the considerable increase in time-consuming, and often non-delegatable, services such as examinations and counselling. Moreover, the substitution of internists for GPs would also have led us to expect more change.

There are, however, a number of offsetting effects. As specialists increasingly substitute for GPs in the delivery of primary care, for example, their casemix should become less severe on average, diminishing intensity increases due to specialization over time. The substitution of aide for physician time should also lower the rate of increase in time spent with the physician, a shift in practice style believed to be on the rise with HMOs and group practices. To separate out these potentially confounding trends requires a multivariate approach.

MULTIVARIATE RESULTS

Multiple regression analysis was used to test the statistical significance of the observed time trends in office visit content. Results for the length of visit and ancillary service regressions are presented in Tables 2 and 3, respectively. Average length of visit (LOV) was specified in minutes while the remaining variables were expressed as the percent of a physician's office visits in which a given service was ordered or provided. A number of other services (e.g., endoscopies, family planning) were excluded because of a large concentration of zero values. Finally, all counselling services were grouped together into a single counselling variable indicating the percent of visits in which any counselling services were provided. Ordinary least squares was

the estimation method used.*

Length of Visit Regressions

Five LOV regression equations are shown in Table 2. The first row of the table presents the parameter estimate for TIME when it is the only explanatory variable included in the equation. (TIME is numbered consecutively, one through eight, beginning with 1974.) The remaining rows provide final parameter estimates when all variables are included. R^2s at the bottom of the table refer only to the equation with all the variables included.

Consistent with the descriptive results, the gross time trend in office visit length is positive and statistically significant, confirming that physicians are spending more time with their patients every year. The TIME coefficient estimate implies that the average office visit is increasing in length at a rate of almost 8 seconds per year (0.13*60 = 7.8 seconds), or about a full minute over the 1974-1981 period. Once other factors are held constant, the positive time trend is no longer statistically significant -- at least not for all physicians as a group (see row 2, column

---

*For length of visit and a number of the diagnostic and therapeutic services (e.g., general and limited exams, counselling), OLS is the appropriate estimation method, yielding unbiased and efficient parameter estimates. For some of the other services, though, which have a large concentration of zeroes (e.g., ECGs, x-rays), OLS estimates may be biased downwards, but even more importantly, traditional tests of significance do not apply.[7] Rather, t-statistics will be underestimated, implying a possible failure to find a significant time trend when one really exists. In these instances, Tobit analysis is the preferred regression technique. Unfortunately, our attempts to employ Tobit were thwarted by the enormity of the data set (close to 13,000 physician observations) and the large number of independent variables, which prevented the likelihood function from converging. Nevertheless, the fact that we do find significant time trends for so many of our dependent variables suggests that OLS is capable of answering our primary research question, i.e., whether or not there have been significant changes in office visit content over time.

1). Thus, the gross time trend observed in the descriptive section is more a function of specialty shifts or a changing physician population rather than a pure increase in visit lengths across the board.

This is evident in the specialty-specific results. Primary care physicians are also providing longer visits every year, 8.4 seconds on average (0.14*60 = 8.4). This figure is more than halved when confounding factors are held constant (to 3.6 seconds/year), but remains highly significant. Offsetting this increase is a dramatic decline in the visit lengths of medical specialists, who are spending 13.8 seconds less time on average per patient each year. Cumulating this figure over seven years indicates that visits to medical specialists were over a minute and a half shorter in 1981 than they were in 1974. Psychiatrists, too, are providing significantly shorter visits (by about 19 seconds/year), although their visits are so long to begin with that the relative change is not nearly as great.

Not surprisingly, our casemix measure is an extremely good predictor of visit length. Physicians with an unusually complex casemix (say 1 standard deviation above the mean) will spend about three minutes longer per visit than physicians with an "average" casemix. That we found casemix temporally unchanged, however, (regression result not shown) implies that severity trends cannot explain longer visits over time.

As expected, a great deal of the variation in visit length is attributable to physician specialty. Nearly all specialists had significantly longer visits than GPs (in the intercept); only FPs, allergists (ALL) and dermatologists (DERM) had comparable visit lengths. Physicians providing the longest visits included cardiologists (CARD) who spent over 21 minutes per patient on average, internists (about 20 minutes), other medical (OTHMED) and surgical (OTHSURG) specialists (24 and 19 minutes, respectively),

ophthalmologists (19 minutes), urologists (18.5 minutes), and of course psychiatrists (33 minutes).* OB-GYNs, pediatricians (PED), general surgeons (GS), orthopedic surgeons (ORS) and otolaryngologists (OTO) have somewhat shorter visits, but still spend more time with patients than GPs, as evidenced by their smaller, but still positive, coefficients. These differences cannot be due to a more complicated visit mix since our physician-specific CASEMIX measure is holding this constant. Instead, they presumably reflect differences in practice styles. By virtue of their training, internists, cardiologists, and other medical specialists emphasize time-consuming cognitive skills, such as lengthy histories and physical examinations, rather than procedural skills.

Group physicians are more likely to use aides as part of their office visits, either as substitutes for their own time or as complementary inputs, making the solo/group distinction a reasonable proxy for productivity differences. The positive coefficient on our SOLO dummy variable (set equal to 1 if the visit is provided by a solo practitioner) suggests that group practice physicians may, in fact, be able to improve their productivity by substituting aide time for own time. Though there were no differences for primary care physicians or medical specialists, surgical specialists and psychiatrists do realize substantial productivity gains to group practice, "saving" 1.3 and 4.3 minutes, respectively, on each visit.

It is commonly argued that board-certified physicians (BOARD) provide a higher quality visit than their non-board-certified peers, spending more time

---

*In addition to these specialty dummies, we included a number of dummy variables to pick up the effect of physicians practicing in more than one specialty, e.g., the internist who concentrates on cardiology cases. Because these variables generally were not significant, we excluded them from Tables 2 and 3 in the interest of space.

with patients and ordering more ancillaries. Yet if board-certified physicians are better trained, they may also be able to diagnose and treat patients more quickly, suggesting shorter visits. At least for primary care physicians, the former effect appears to dominate: board-certified physicians spend a half-minute longer per patient than their non-board-certified colleagues. Whether they provide more ancillary services as well is a question we explore below. Other board-certified specialists apparently have shorter visits, making it important to distinguish specialty in discussing the certification-visit length relationship.

Female physicians (FEMALE) spend significantly more time with their patients (about 2.2 minutes more on average), even after specialty and other physician characteristics are held constant. This finding is consistent across specialty groups with the exception of the surgical specialists, which include very few women to begin with. (Less than 1% of visits to surgical specialists were provided by women.) Particularly striking is the five minute difference in visit lengths of male and female psychiatrists.

Because the relationship between physician age and visit content will depend on the nature of the service being provided, we tested both linear and quadratic (age and age squared) specifications of the age variable. The relationship between physician age (MDAGE, MDAGESQ) and visit length is clearly U-shaped; that is, visit lengths of younger physicians start out quite long, decline as the physician enters his prime (early forties), and then start to rise again as the physician ages. This is consistent with expectations in that young physicians just starting their careers tend to have fewer patients, and hence, more time to spend with each one. At the other end of the spectrum, older physicians may spend more time with patients because obsolescing skills reduce the demand for their services or their ability to

diagnose and treat quickly. We might also expect older physicians to spend more time treating patients they have known and cared for for many years.

Lengths of visit are significantly different across the country, suggesting that demand and supply variables not included in this analysis play an important role. Visit lengths are longest in the West, followed by the Northeast (NE) and Southern (SOUTH) parts of the country. Visits are also significantly shorter in non-SMSAs, presumably because lower physician-population ratios in these areas place greater time demands on physicians who do live there. The urban/rural disparity is especially large for medical specialists. Urban physicians spend over 2 minutes longer with their patients than their rural colleagues who are in shorter supply.

Ancillary Service Regressions

Table 3 presents regression results for eight diagnostic and therapeutic services, again estimated in two distinct stages (first with TIME only, then with all other variables added in). Explanatory power of the regressions ranged from a low of 15% for general exams to a high of 65% for Pap tests.

As we noted in the descriptive results, the overall frequency of general exams (i.e., the gross time trend) has been falling over the 1975-1981 period while the use of limited exams has been on the rise. This remains the case even after other factors are held constant, suggesting that most physicians are substituting more limited for general exams over time.

Contrary to popular belief, the overall use of lab tests and x-rays by office-based physicians has not been increasing over time once other factors like casemix and specialty mix are held constant (see eq. 3 and 4). The same is true of less widely used diagnostic services like ECGs and Pap tests which have actually declined in relative frequency over time. More specifically,

ECGs have been falling gradually at a rate of about 0.09 percentage points per year, or 0.12 percentage points holding other factors like specialization trends constant.

Offsetting these declines in diagnostic services has been a significant increase in therapeutic counselling which has been rising at a gross rate of 2.5 percentage points every year. Office surgery has also been rising slightly over the years, though this trend appears to be more a function of specialty shifts than of anything else.

Use of the ancillary services varies systematically by specialty, of course. General exams are most frequently provided by pediatricians and OB-GYNs (36.8% and 25% of visits, respectively) while specialties like ophthalmology and otolaryngology which concentrate on a specific part of the anatomy perform few general but many limited exams. Lab tests tend to be recommended more frequently by primary care physicians, otolaryngologists (OTO) and urologists (URO) notwithstanding. Other specialty findings also conformed to expectations, with orthopedic surgeons far more likely to request x-rays (about 38% of visits), OB-GYNs performing the most Pap tests (33% of visits), and cardiologists doing the most ECGs (35% of visits), ceteris paribus. Physicians most active in patient counselling included all the primary care practitioners (except general surgeons), the "other medical specialists" (OTHMED), and psychiatrists, naturally. While board-certified physicians are no more likely to conduct a general exam during a visit than their non-board-certified colleagues, they are more likely to order all types of ancillary services, even adjusting for casemix and specialty.

It was hypothesized above that solo physicians have longer, but less service-intensive, visits than those in group practice. This in fact appears to be the case. Physicians who practice alone perform more general exams

while ordering substantially fewer of all types of services compared with those in group practice. The differences, furthermore, are considerable: solo physicians recommend 13 percent fewer lab tests and 35 percent fewer x-rays, for example (based on the mean sample utilization rates of 21.7% and 7.7% for lab and x-rays, respectively). This is true even after specialty, casemix, physician age, and location have been held constant.

Female physicians are significantly more likely to provide time-consuming general exams and counselling services as part of their longer visits. The FEMALE coefficient in eq. (1), Table 3, implies that the proportion of female physicians' visits involving a general exam is nearly five percentage points higher than for male physicians (around a mean of 18%). And whereas one out of four visits to a male physician involves some sort of counselling, the comparable figure for female physicians is one out of three. Female physicians also order more clinical laboratory and Pap tests than do male physicians, even after specialty is held constant.

The relationship between physician age and the content of an office visit varies widely across the services. Younger and older physicians are more likely to conduct general exams, which is consistent with their longer visit lengths. On the other hand, they are less likely to order x-rays or ECGs. Also, it is the older physicians who do more office surgery.

Finally, we note as much geographic variation in the diagnostic/ therapeutic content of physicians' office visits as in visit lengths. Patients visiting a physician in the Northeast (NE) are more likely to receive a general exam than elsewhere but less likely to receive any lab tests or x-rays. Visits in the South tend to be much more service intensive, by contrast, involving a greater number of lab tests, x-rays and ECGs. Southern physicians are also providing the fewest counselling services of all

physicians (particularly in comparison with their Western counterparts, who are the most active patient counselors). Consistent with their shorter than average visit lengths, rural physicians provide significantly fewer of all the diagnostic and therapeutic services except office surgery, which may reflect a lower hospitalization rate than in urban areas.

SUMMARY AND DISCUSSION

Table 4 summarizes the gross and net time trends in all twelve visit content dimensions for the sample as a whole. Gross changes reflect average annual changes in the length of visit or service frequency where statistically significant, zero otherwise, while net changes adjust for contemporaneous changes in casemix, specialty mix, and productivity.

Overall, the nature of the average office visit has definitely changed. By 1981, the "typical" visit was nearly a minute longer than it was in 1974 (0.13*7 = 0.91). The physician was far more likely to conduct a limited exam while slightly less likely to do a general exam. The visit was longer, not because the physician was providing high-technology diagnostic services like ECGs or x-rays, but because he or she was performing more therapeutic services, especially "talking" therapies. The physician was just as apt to order a lab test or x-ray as he/she was in 1974, but actually less inclined to order an ECG or Pap test -- at least in any one visit. The typical visit would be more likely to include medical and diet counselling and office surgery.

Thus, while the content of an office visit is changing, it is not changing in the way conventional wisdom would suggest. Physicians are not performing (or ordering) more tests, but rather more direct patient care services. Physicians may have reached an upper limit and already order lab tests or

x-rays for all visits where appropriate.

Office visit content has changed in part because physicians themselves have changed. The average visit in 1981 is more likely to be made to a specialist than to a general practitioner, for example. Once we hold specialty mix and other patient, practice, and physician characteristics constant, a few of the time trends turn insignificant. In particular, there is no net change in length of visit, implying that the specialization trend (among others) explains why visit lengths are increasing. Positive time trends in vision tests and office surgery also become insignificant once we hold specialty mix constant. Finally, we see that declines in general exams and ECGs are actually more acute than they appear in the gross trends.

Given that a changing physician mix is largely responsible for a number of the observed trends in office visit content, we might expect future changes in the physician stock to have an important impact on the delivery of office based care in the years to come. Based on the 1990 supply projections of the Bureau of Health Professions,[8] the supply of medical subspecialists is expected to double between 1975 and 1990, far outstripping the growth in other physician specialties, especially the surgical subspecialties (which are expected to increase only 28%). Primary care physicians, with the exception of general practitioners, are also expected to grow substantially, some 70% over the 1975-1990 period. These trends would imply that visit lengths will be getting even longer and the use of certain ancillaries, greater, as specialties like cardiology, internal medicine, and family practice increase in relative importance. The influx of women into the medical profession should reinforce the trend towards longer visits, as evidence presented in this study and others suggests that female physicians spend notably more time

with patients than do their male peers.[9-11] Partially offsetting this effect, however, will be the growth in group practice, which is associated with shorter office visit lengths with the physician (yet greater overall ancillary intensity).

REFERENCES

1. Bureau of the Census. Statistical Abstract of the U.S., 1981.

2. Mathematica, Inc. Evaluation of the Effects of NHSC Physician Placements upon Medical Care Delivery in Rural Areas: An Analysis of Content of Office Visits Provided by NHSC and Private Sector Physicians, HHS/HRA/BHPr Report No. HSA-240-79-0056, September 15, 1981.

3. Schneeweiss R et al. "Diagnostic Clusters: A New Tool for Analyzing the Content of Ambulatory Medical Care," Medical Care 21(1):105-121, January, 1983.

4. Hughes E et al. "Surgical Workloads in a Community Practice," Surgery 71:315-327, March, 1972.

5. Fetter R et al. "Casemix Definition by Diagnosis-Related Groups," Medical Care Supplement 18:2, February, 1980.

6. American Medical Association. Physician Distribution in the U.S., 1974, 1980.

7. Pindyck R and D Rubinfeld. Econometric Models and Economic Forecasts, McGraw-Hill, Inc., 1981.

8. Bureau of Health Professions Analysis, DHHS/HRSA, The Current and Future Supply of Physicians and Physican Specialists, HRA-80-60, 1980.

9. Kehrer B. "Factors Affecting the Incomes of Men and Women Physicians," Journal of Human Resources 11:526-545, Fall 1976.

10. Langwell K. "Career Paths of First-Year Resident Physicians: A Seven-Year Study," Journal of Medical Education 55:897-905, November 1980.

11. Mitchell J. "Practice Patterns and Earnings of Women Physicians," HCFA Grant No. 18-P-97723/1-01, June 1982.

TABLE 1

CHANGES IN OFFICE VISIT CONTENT OVER TIME, 1974-1981

	1974	1975	1976	1977	1978	1979	1980	1981
				(% of Visits)				
Diagnostic Services								
Limited Exam/History	--	51.3%	51.9%	56.3%	61.8%	63.0%	63.8%	64.9%
General Exam/History	--	15.7	16.9	22.4	21.3	16.8	15.8	15.1
Clinical Lab Test	19.1	22.9	22.7	21.4	20.8	23.2	21.8	22.1
X-Rays	7.1	7.4	7.7	7.8	8.2	8.2	7.3	7.6
Blood Pressure Check	--	33.2	33.2	34.0	33.3	36.0	33.9	34.7
Pap Test	--	--	--	5.4	4.9	4.9	4.4	4.3
ECG	--	3.4	3.3	3.0	3.4	2.7	2.8	3.2
Endoscopy	--	1.2	1.2	1.2	1.0	1.3	0.8	1.0
Vision Test	--	4.7	5.2	4.0	4.8	6.0	5.7	5.8
				(% of Visits)				
Therapeutic Services								
Office Surgery	--	6.7	7.1	7.9	7.7	7.4	7.5	7.3
Physiotherapy	--	2.2	3.0	3.3	3.6	3.1	5.1	4.6
Medical Counselling	--	12.3	13.6	20.6	19.4	22.2	23.2	22.9
Diet Counselling	--	--	--	6.9	7.4	6.0	8.5	7.6
Psychotherapy/ Therapeutic Listening	4.4	4.3	4.1	5.4	5.0	4.4	5.0	4.8
Family Planning	--	--	--	1.5	1.4	1.4	2.2	1.9
				(Length in Minutes)				
Length of Visit	14.0	14.5	14.6	14.8	14.4	14.9	15.3	15.4

TABLE 2

REGRESSION RESULTS FOR LENGTH OF OFFICE VISIT OVER TIME, 1974-1981

	TOTAL	PRIMARY CARE	MEDICAL SPECIALISTS	SURGICAL SPECIALISTS	PSYCHIATRISTS
TIME	0.13+	0.14+	-0.23*	0.10#	-0.32*
TIME	0.02	0.06#	-0.24#	0.05	-0.34#
CASEMIX	7.00+	6.00+	8.55+	4.21+	11.68+
FP	0.01	-0.10	--	--	--
IM	4.67+	4.64+	--	--	--
OB-GYN	1.20+	0.78+	--	--	--
PED	0.71+	0.16	--	--	--
GS	1.54+	--	--	--	--
ALL	-0.82	--	-9.07+	--	--
CARD	6.32+	--	-2.28+	--	--
DERM	-0.38	--	-7.86+	--	--
OTHMED	8.60+	--	--	--	--
OPH	3.57+	--	--	3.04+	--
ORS	1.75+	--	--	0.93+	--
OTO	1.14+	--	--	-0.19	--
URO	3.49+	--	--	2.39+	--
OTHSURG	3.93+	--	--	2.85+	--
PSYCH	17.98+	--	--	--	--
OTHERMD	1.95+	--	--	--	--
SOLO	0.36+	-0.03	-0.10	1.28+	4.32+
BOARD	0.13	0.50+	-0.28	-0.35	-1.25
FEMALE	2.22+	1.98+	2.69#	1.32	4.98+
MDAGE	-0.34+	-0.30+	-0.23	-0.48+	-0.27
MDAGESQ	0.0040+	0.0036+	0.0027	0.0054+	0.0026
NE	1.16+	0.96+	1.90+	1.52+	2.02*
SOUTH	1.19+	1.18+	0.83	1.24+	4.00+
WEST	1.86+	1.78+	0.45	2.63+	3.50+
RURAL	-1.17+	-1.20+	-2.10+	-0.89+	-3.71#
Constant	11.34+	11.35+	17.29+	17.66+	12.97
R^2(c)	0.52	0.27	0.38	0.15	0.23
F(df)	(33,12999) =449.45+	(19,6916) =145.8+	(16,1047) =43.83+	(18,3765) =40.56+	(12,1053) =30.53+

+Significant at one percent level
#Significant at five percent level
*Significant at ten percent level.

Note: Dependent variable means in parentheses.

TABLE 3

REGRESSION RESULTS FOR ANCILLARY SERVICE CONTENT OVER TIME, 1975-1981

	GENERAL EXAMS (1)	LIMITED EXAMS (2)	LAB TESTS (3)	X-RAYS (4)	ECGs (5)	PAP TESTS (6)	OFFICE SURGERY (7)	COUNSELLING (8)
TIME	-0.23#	2.59+	0.12	0.03	-0.09#	-0.25+	0.09*	2.46+
TIME	-0.44+	2.68+	0.01	-0.03	-0.12+	-0.26+	0.06	2.16+
CASEMIX	7.89+	-4.16+	-0.94	3.05+	3.47+	2.81+	-3.10+	14.09+
FP	-0.08	-0.71	3.93+	0.42	0.24	1.35+	0.64#	7.26+
IM	1.60#	-1.92*	13.67+	5.10+	8.68+	-0.85+	-3.34+	6.89+
OB-GYN	7.17+	-6.19+	21.51+	-6.48+	-2.60+	27.64+	-1.55+	6.83+
PLD	19.07+	-17.14+	0.68	-4.81+	-2.08+	-3.72+	-1.94+	4.43+
GS	0.21	-5.49+	-11.24+	0.82#	-1.28+	-1.99+	12.10+	-2.83+
ALL	-11.13+	-29.47+	-14.94+	-6.71+	-2.35+	-4.14+	-3.13+	-11.99+
CARD	2.10	-10.32+	-0.77	3.82+	31.79+	-4.01+	-3.31+	-3.54
DERM	-8.56+	-1.98	-14.74+	-6.53+	-2.45+	-3.54+	28.68+	-9.55+
OTHMED	3.39*	-10.65+	-0.80	2.19+	3.08+	-4.31+	-2.54+	4.10
OPH	-8.92+	6.31+	-19.91+	-7.95+	-3.52+	-4.46+	-0.92#	-16.13+
ORS	-3.34+	-0.72	-21.02+	28.95+	-3.08+	-4.03+	8.39+	-0.15
OTO	-4.43+	5.19+	17.88+	-2.90+	-2.66+	-3.57+	7.09+	-4.15+
URO	-1.69	-8.47+	46.26+	0.52	-2.55+	-3.74+	11.66+	-1.93
OTHSURG	-4.18+	-0.39	-18.21+	-0.05	-1.42+	-3.81+	10.43+	0.17
PSYCH	-29.45+	-44.23+	-17.44+	-12.69+	-9.53+	-9.11+	0.75	41.92+
OTHERMD	-1.49	-0.46	-4.72	2.85+	-0.17+	-2.69+	7.13+	-0.93
SOLO	0.64*	-1.37#	-2.85+	-2.71+	-0.67+	-0.99+	-1.14+	-0.25
BOARD	-0.46	0.14	1.54+	0.61+	0.40#	0.77+	0.90+	1.53#
FEMALE	4.71+	0.11	7.24+	-0.03	-0.14	3.03+	-0.20	8.32+
MDAGE	-0.30#	-0.16	0.02	0.17+	0.17+	0.04+	0.03+	0.08
MDAGESQ	0.0028#	0.0000	--	-0.0017+	-0.0014+	--	--	-0.0017
NE	3.90+	-4.91+	-3.06+	-0.89+	0.13	-0.03	0.81+	0.03
SOUTH	1.69+	-4.32+	1.30+	0.56+	0.63+	0.09	-0.18	-2.58+
WEST	-1.79+	-2.81+	-1.36+	0.25	-0.01	-0.18	1.15+	2.13+
RURAL	-1.96+	0.36	-0.65*	-1.91+	-1.20+	-0.32*	0.38*	0.01
Constant	17.75+	66.99+	22.84+	2.27	-4.35+	0.75	6.52+	-0.05
R^2(c)	0.15	0.16	0.39	0.46	0.42	0.65	0.42	0.24
F(df)	(33,11179) =61.49+	(33,11179) =69.79+	(32,13000) =272.49+	(33,12999) =344.99+	(33,11179) =260.40+	(32,7558) =465.21+	(32,11180) =264.73+	(33,12999) =132.24+

+Significant at one percent level
#Significant at five percent level
*Significant at ten percent level.

TABLE 4

SUMMARY OF GROSS AND NET TIME TRENDS IN OFFICE VISIT CONTENT[a]

	Gross Change		Net Change	
	Annual	1974-81[b]	Annual	1974-81[b]
Length of Visit (mins.)	0.13	0.91	0	0
General Exam (%)	-0.23	-1.61	-0.44	-3.08
Limited Exam (%)	2.59	18.13	2.68	18.76
Lab Tests (%)	0	0	0	0
X-Rays (%)	0	0	0	0
ECGs (%)	-0.08	-0.56	-0.12	-0.84
Vision Tests (%)	0.21	1.47	0	0
Pap Tests (%)	-0.27	-1.89	-0.26	-1.82
Office Surgery (%)	0.10	0.70	0	0
Counselling (%)	2.46	17.22	2.16	15.12

[a]Annual gross and net changes based on TIME coefficients on line 1 and 2, respectively of Tables 2 and 3.

[b]Column gives annual change projected over seven years.

CMS LIBRARY
3 8095 00014132 1